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SXS Team Wins IRAD Innovators of the Year Award

By Lori Keesey

The Goddard team that was recently selected by NASA to build a next-generation spectrometer for Japan's *Astro-H* mission has been awarded the 2008 Internal Research and Development (IRAD) Innovator of the Year award by the Office of the Chief Technologist.

The team, led by Principal Investigator Richard Kelley, was chosen because of its success leveraging R&D funds to enhance instrument capabilities and ultimately winning the $44 million Soft X-ray Spectrometer (SXS), which will probe the motion of matter in extreme environments, investigate the nature of dark matter, and explore how galaxies and clusters of galaxies form and evolve.

"We invest in technology primarily to become more competitive winning new work," said Chief Technologist Peter Hughes. "Richard's team effectively used those investments to significantly improve his instrument, which resulted in new business for Goddard. We're very pleased with his success and happy that our investments paid off."

In late June, NASA selected the instrument from among 17 proposals under the Agency's Explorer Program Mission of Opportunity solicitation. It is one of four slated to fly on *Astro-H* (formerly known as the *New X-ray Telescope,* or NeXT), which the Japan Aerospace Exploration Agency plans to launch in 2013.

Though similar in many respects to the X-Ray Spectrometer that flew on Japan's *Suzaku Observatory* in 2005, the new instrument will offer greater capabilities particularly in the areas of detector performance, cooling technologies, and collecting area—enhancements made possible in part by Goddard's R&D investment programs, said Kelley.

"Certainly, the support we received through Goddard's Internal Research and Development and other programs contributed to our proposal win and our ability to build an enhanced instrument," Kelley said. "As a result of these investments, we are building a higher-resolution instrument that will be particularly useful for studying dark matter on large scales and the formation and evolution of clusters of galaxies." ■

Photo credit: Debora McCallum

Caption: The SXS team includes (from left to right): Peter Serlemitsos, Richard Kelley, Peter Shirron, F. Scott Porter, and Carolina Kilbourne. Team members not pictured are Christine Jhabvala, Nicholas Costen, Samuel J. Moseley, Takashi Okajima, and Yang Soong.

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Cover caption: Dr. Robert MacDowall speaks on the science behind NASA's *Interstellar Boundary Explorer* mission.

Image credit: Pat Izzo.

GoddardView Info

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Deadlines: News items and brief announcements for publication in the Goddard View must be received by noon of the 1st and 3rd Wednesday of the month. You may submit contributions to the editor via e-mail at john.m.putman@nasa.gov. Ideas for new stories are welcome but will be published as space allows. All submissions are subject to editing.

NASA Launches *Interstellar Boundary Explorer* Mission to Outer Solar System

By Nancy Neal Jones and Dewayne Washington

NASA's *Interstellar Boundary Explorer* (IBEX) successfully launched from the Kwajalein Atoll in the Pacific Ocean at 1:47 p.m. EDT, Sunday, October 19. IBEX will be the first spacecraft to image and map the dynamic interactions taking place in the outer solar system.

The spacecraft separated from the third stage of its Pegasus launch vehicle at 1:53 p.m. and immediately began powering up components necessary to control onboard systems. The operations team is continuing to check out spacecraft subsystems.

Photo credit: NASA

Caption: Pegasus rocket being dropped from the L-1011 aircraft.

"After a 45-day orbit raising and spacecraft checkout period, the spacecraft will start its exciting science mission," said IBEX Mission Manager Greg Frazier of NASA's Goddard Space Flight Center in Greenbelt, Md.

Just as an impressionist artist makes an image from countless tiny strokes of paint, IBEX will build an image of the outer boundary of the solar system from impacts on the spacecraft by high-speed particles called energetic neutral atoms. These particles are created in the boundary region when the 1-million miles per hour solar wind blows out in all directions from the Sun and plows into the gas of interstellar space. This region is important to study because it shields many of the dangerous cosmic rays that would flood the space around Earth.

"No one has seen an image of the interaction at the edge of our solar system where the solar wind collides with interstellar space," said IBEX Principal Investigator David McComas of the Southwest Research Institute in San Antonio. "We know we're going to be surprised. It's a little like getting the first weather satellite images. Prior to that, you had to infer the global weather patterns from a limited number of local weather stations. But with the weather satellite images, you could see the hurricanes forming and the fronts developing and moving across the country."

Photo credit: Pat Izzo

Caption: Goddard employees fill the library to hear about NASA's IBEX mission from Willis Jenkins.

On October 16, employees gathered in the Goddard Library as Willis Jenkins, a former Goddard employee and IBEX Program Executive, and Dr. Robert MacDowall, IBEX Mission Scientist, provided an overview of the IBEX mission.

IBEX is the latest in NASA's series of low-cost, rapidly developed Small Explorers spacecraft. The Southwest Research Institute developed the IBEX mission with a team of national and international partners. Goddard manages the Explorers Program for the Science Mission Directorate in Washington, D.C.

For more information about the IBEX mission, visit: http://www.nasa.gov/ibex. ■

Exploration Sciences Building is Almost 70 Percent Complete

By Rob Gutro and Dave Larsen

To an outsider, watching a building being built is like putting together a complex puzzle. In spite of its intricacies, the construction of the Exploration Sciences Building (ESB) continues at a feverish pace. "The project is nearing 70 percent complete with roofing and metal siding being installed before the winter weather arrives," said David Larsen, ESB Project Manager at Goddard.

Photo credit: Dan Baxter/Crawford Consulting

Caption: North view of the Exploration Sciences Building.

Every day brings changes to the project with the construction of additional layers of ductwork, wiring, piping, and equipment scattered throughout the building's interior. The new air handler units, which provide the heating and air conditioning for the building, were delivered and installed over the past month. This will allow the final piping and ducting in the mechanical penthouse to move forward. Additionally, the window installation is nearing completion, which provides a finished look on the office block.

Photo credit: Debora McCallum

Caption: Window installation on the north side of the Exploration Sciences Building.

Larsen said that the new Explorer Road extension, which is located north of Building 32, is also nearing completion and allows a clear view of the building construction and the recent progress made. The final surface course for this road is anticipated to be complete by the end of October 2008. The full use of the road, however, is not anticipated until the completion of the ESB.

Photo credit: Dan Baxter/Crawford Consulting

Caption: South view of the Exploration Sciences Building.

As the project progresses, the project team continues to work with Code 600 in the final goal of moving into the building and outfitting the building with the proper lab and office furnishings. The Outfitting and Move-In team, led by Ms. Luly Carson, continues to make progress in developing move-in plans and gearing up to make the labs and offices ready for occupancy.

Photo credit: Debora McCallum

Caption: At the end of September, the air handlers on the penthouse level were installed.

Future occupants can get updates on the move-in plans on the Exploration Sciences Building's (ESB) internal Web site: http://new34. This Web site is only available to employees who are located on the Goddard campus. The Web site has video clips, facts, ESB coordinators, and even provides a live Web cam to see the building being put together.

The Web site will continue to be populated with frequently asked questions, resources, and information for those moving to the building.

If you haven't had a tour yet, don't fret. Additional tours are anticipated as the building nears completion in July 2009. The building was designed by EwingCole Architects, based in Philadelphia and Washington, D.C. ■

Goddard Observes America Recycles Day

By Trusilla Steele

Did you know that by recycling just six glass bottles a week you would save enough energy to power a conventional light bulb for 24 hours? Recycling reduces such environmental impacts as waste, pollution, and energy usage. In addition, recycling provides financial savings. Such impacts are in the Nation's interest as changes to the environment are of peak concern.

To heighten awareness of the benefits of recycling, the National Recycling Coalition will again support America Recycles Day on November 15, 2008. This nationally recognized day is designated to continue promoting the social, environmental, and economic benefits of recycling, and to encourage more people to join the movement toward creating a better natural environment.

Goddard will observe America Recycles Day on Thursday, November 13 in the front lobby of Building 32 from 11 a.m. to 1 p.m. Activities include a science talk and tour given by colleagues from the Earth Science Division. Representatives from Facilities Management, Safety and Environmental, and Information and Logistics Management divisions will be present to promote the "3 Rs" (reduce, reuse, and recycle) of disposable materials. The event will also showcase many of the recycled products we use when performing our daily tasks. In addition, children from the Goddard Child Development Center will give a special performance.

Conservation and sustainability have always been a part of Goddard's business. In addition to recycling paper, plastic, glass, and aluminum, Goddard recycles batteries, cardboard, chemicals, laser toners, and metal. Darlene Squibb, Environmental Protection Specialist, says Goddard's recycling efforts began about 14 years ago, "The Government increased their [recycling] efforts in 1997 when Executive Orders strengthened environmental compliance. Although earlier Goddard efforts were on a volunteer basis, it then moved to inside facilities around 1994. The full-up programs we have today were expanded from a pilot program of adding drink containers and mixed papers. This was done in 1997 coinciding with the first America Recycles Day."

Another example of Goddard's business of reduction and reuse is the utilization of landfill (methane) gas from a closed landfill in Bowie, Md. The methane gas is burned in our boiler plant to bring heat to Goddard's buildings. This energy source reduces carbon dioxide, nitrous oxides, and particulate emissions by not burning natural gas and oil.

As a result of Squibb's diligent education and outreach efforts done through communications and taking a team approach with multiple organizations, employees are reducing and recycling disposable waste. In Fiscal Year (FY) 2006, approximately 14,900 lbs. of waste was disposed of and 4,700 lbs. of material was recycled compared to FY07, when approximately 11,060 lbs. of waste was disposed of and 8,730 lbs. of material was recycled.

In the construction industry, recent increases in the building of sustainable buildings have been driven largely by the U.S. Green Building Council's (USGBC) Leadership in Energy and Environmental Design (LEED) rating system. The USGBC has developed the LEED rating system to promote a whole-building approach to sustainability by recognizing performance in five key areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality. Such buildings not only provide a healthy indoor environment, they also conserve natural resources and money. In keeping with Goddard's sustainability efforts, our new Exploration Sciences Building will meet the LEED's standard by meeting all five LEED's key areas. The project to date has recycled nearly 5,000 tons of materials and has purchased about $1.7 million in recycled content construction products.

In an effort to reduce even more waste, the Center has participated in some composting activities. Composting is the process of decomposing organic material such as food waste and yard trimmings. Once mature, it can reduce or eliminate the use of chemical fertilizer and provide a cost savings. A large composting demonstration occurred at this year's LaunchFest, which was held on September 13 and attracted about 11,000 visitors. Volunteers at "greening stations" collected food scraps directly from most visitors. Squibb explains the outcome, "In a nutshell, we pulped 50 bags of food waste and 3 toters with 500 lbs. of waste, which were delivered to the U.S. Department of Agriculture (USDA) compost research facility next door to us in Beltsville." Prior to LaunchFest, food scraps from GSFC cafeterias were also collected and delivered to USDA, providing some reduction in disposable waste.

Although there is an increased awareness of recycling, there is still room for improvement at Goddard. Employees should be aware of their buildings' recycling containers. If there aren't any located in your office, there are containers in each building's canteen area or near the loading docks. Remember to ask yourself before you throw it away: Is it recyclable?

For more information and details on GSFC's America Recycles Day, visit Goddard's recycling Web site: http://recycle.gsfc.nasa.gov/index.cfm. ■

Goddard Technology Wins 2008 R&D 100 Award

By Nancy Pekar

Goddard Space Flight Center racks up a "three-peat" with the announcement that its Sensor Web 2.0 won an R&D 100 Award for 2008. This marks the third consecutive year that Goddard technology has been lauded at the ceremony that the Chicago Tribune dubbed the "Oscars of Invention." Each year, *R&D Magazine* selects 100 of the most innovative technologies that have the potential to further scientific discovery and affect human life.

Goddard's Sensor Web 2.0 has already shown its capability in a recent wildfire management campaign in California. Particularly user friendly and cost effective, Sensor Web 2.0 frees up highly skilled programmers and engineers to attend to more technically demanding tasks, resulting in a more efficient allocation of resources.

A Web services-based software, Sensor Web 2.0 gathers and assimilates data from a network of sensors—seismic and GPS ground sensors, fire tower sensors, weather radar devices, and satellite sensors—enabling them to operate as a cohesive whole. By employing Workflow Management Coalition (WfMC) workflows and taking advantage of emerging "mashup" capabilities, Sensor Web 2.0 enables users to set up such sensor webs through easy point-and-click interfaces. Because the sensor-integration path is not tied to a particular system, it strengthens the U.S. contribution to GEOSS, the Global Earth Observing System of Systems, that stems from about 60 countries to form a network of Earth-observing systems. The result is a complete, real-time picture of Earth via shared global resources.

Photo Credit: Bill Hrybyk

Caption: Innovation team members (from left to right): Pat Cappelaere, Dan Mandl, and Stu Frye

Dan Mandl, the innovation team leader, noted that while all sensor web initiatives work toward early detection of natural disasters, Sensor Web 2.0 has the advantages of being particularly user friendly and cost effective. "Scientists or emergency workers typically spent months or years working with a team of programmers to assemble sensors and data processing algorithms into workflows to accomplish an application," Mandl said. "Sensor Web 2.0 enables even students to assemble customized sensor web applications in a matter of hours or minutes, with no staff. Like the Internet, the usability will increase exponentially as the library of available workflows grows."

Goddard researchers have been testing Sensor Web 2.0 with the wildfire-fighting effort in Southern California. NASA's *Earth Observing-1* (EO-1) satellite captured a distant image of fire and then used the Sensor Web 2.0 architecture to autonomously trigger an unmanned aerial vehicle (UAV) to image a detected hot spot. Conversely, the UAV was able to trigger EO-1 to take a follow-up image once it detected active fires. The Sensor Web 2.0 architecture also enabled "collaboration" with the *Terra* and *Aqua* satellites as well as Air Force Weather Agency satellite imagery.

The technology can be applied to all manner of natural and manmade disasters, including giving advance warning of a tsunami approaching land; precisely determining hurricane strength, location, and trajectory; and detecting oil spills soon after the spill occurs. The development of such customized new applications is accomplished via "mashups," which involves creating a single, integrated tool by "mashing" together data from multiple sources. Sensor Web 2.0 transforms the operations of space-based, airborne, and remote ground sensors from a complicated, manpower intensive, costly effort into a user-driven mashup activity.

Everett Hinkley, the national remote sensing program manager for the USDA Forest Service, recognizes the benefit of the Sensor Web 2.0 technology for disaster mitigation and post-disaster management. "The sensor web concept is a remarkable way to share complex geospatial data from a network of sensors linked by software and the Internet to a wide audience in a user-friendly fashion," he said. "The Forest Service has already tapped into this system during the Southern California wildfires, and we will continue to expand our use of this technology in the future."

Sensor Web 2.0 can be used to quickly and easily make sensors accessible and controllable over the Internet. Users can select an area of interest (either geographic or event-specific) via a standard Web portal and receive notifications of events via instant message or short message service. The technology easily plugs in new sensors, which could pop up in a Google search, growing the network without additional expenditure of resources.

"We believe that Sensor Web 2.0 has the potential to be as revolutionary to Earth monitoring as Web browsers are to the Internet," said Nona Cheeks, chief of Goddard's Innovative Partnerships Program Office, which submitted the technology for the R&D 100 award. "It is reassuring to know that *R&D Magazine* considers this technology as significant as we do."

R&D Magazine's judges select 100 winners that exemplify the best new technologies from an international pool of contestants from universities, private corporations, and Government labs. Winners of the 2008 R&D 100 Awards appear in this month's issue of *R&D Magazine*.

For more information about Sensor Web 2.0, visit:
http://ipp.gsfc.nasa.gov/ft-tech-SensorWeb.html. ■

Center Director Holds First "Can We Talk" Session

By Trusilla Steele and Sharon Wong

New Center Director Robert Strain held his first "Can We Talk" session with Goddard's Hispanic community on September 30. Although this was Strain's first open dialogue session at Goddard, he held similar sessions with employees at the Johns Hopkins University Applied Physics Lab while serving as head of the Space Department there.

The Can We Talk sessions serve as a venue for employees to have constructive, open, and informal dialogue with the Center Director on what affects the Goddard community. It is an additional channel for the NASA community to voice its questions, concerns, and ideas to senior leadership about Center matters.

Also present at the session were Deputy Director Rick Obenschain, Special Assistant for Diversity Sharon Wong, Associate Chief of the Equal Opportunity Programs Office (EOPO) Veronica Hill, and Director of the Office of Human Capital Management (OHCM) Ron Brade.

Concern about support for the coordination of such activities as recruitment and events for the month's observance of Hispanic heritage was the opening discussion. Brade stated that OHCM's recruitment process includes input from the advisory committees about particular tools and resources specific to attaining a diverse spectrum of employees. Brade also stated OHCM will work with the EOPO to assist with establishing a standard for coordinating activities with the Hispanic Advisory Committee for recruitment efforts. Hill stated that the EOPO will work on improving consistent coordination of the group and their activities.

Another dialogue topic addressed extending opportunities and training, especially for those who may be qualified for a position, but lack particular skills. Obenschain agrees that Goddard Opportunity Bulletin Board System (GOBBS) is underutilized. Both Strain and Obenschain committed to putting more emphasis on having opportunities posted on GOBBS. Wong is working with the Diversity Council, under whose purview GOBBS falls, to conduct an analysis of the system to gain insight on the positive aspects of GOBBS, including understanding when GOBBS is being used and when it is not, and where improvements or changes are needed.

Strain answered the question regarding a diverse workforce by stating, "Diversity is an important element for success." Strain is pleased with the commitment from Goddard management to have a diverse workforce. He has reviewed Goddard's Human Capital Plan and feels the opportunity to impact the demographic make-up of the Center can only get better as time goes on.

Strain held another Can We Talk session, which was open to all employees, on October 7. Personnel present at this dialogue were, Obenschain, Wong, Deputy Director for Science and Technology Laurie Leshin, and Deputy Director of Management Operations Ray Rubilotta.

Rubilotta addressed re-badging concerns by stating how the Security Office is working around glitches in the system to re-badge employees. He assured employees who have completed their paperwork that they will be allowed to access the Center.

A discussion regarding Goddard's green initiatives was addressed by Rubilotta stating Goddard's Master Plan includes such initiatives as growing meadows, bio-retention, and the new Exploration Science Building obtaining a Leadership in Energy and Environmental Design (LEED) rating. The LEED rating system promotes a whole-building approach to sustainability by recognizing performance in five key areas of human and environmental health: sustainable site development, water savings, energy efficiency, materials selection, and indoor environmental quality.

The recycling project to date has recycled nearly 5,000 tons of materials and has purchased approximately $1.7 million in recycled content construction products. Rubilotta also noted the success of the recycling program and energy management. Leshin stated that as part of the future implementation efforts, employee forums will be held to solicit feedback pertaining to green initiatives.

On October 23, a Can We Talk session was held for National Disability Employment Awareness Month. Along with Strain, Leshin, and Wong, the session was also attended by EOPO Chief Lori Simmons.

Strain said about the Can We Talk sessions, "I love these. They help me to better understand the needs of the Center."

Disability Program Manager Denna Lambert discussed several ways in which Goddard can reach out to those with disabilities. One way mentioned was a "disability road show" that would address directorates and bring attention to the need to recruit employees with disabilities.

Members of the Goddard community in attendance brought up many issues and concerns, from some automatic doors not working, to reasonable accommodation policies. Before the end of the meeting, Strain commented, "We definitely have some actions to take from this."

With regards to Goddard's future, Strain feels we are in a good position. He said, "This is a busy time but an exciting time." He also noted some upcoming missions: the *James Webb Space Telescope*, *Mars Atmosphere and Volatile Evolution* (MAVEN) spacecraft, and *Ice, Cloud, and land Elevation Satellite II* (ICESat II), and Goddard's role in these missions. ■

Goddard Women Recognized at International Forum

By Dewayne Washington

Nona Cheeks, Chief of Goddard's Technology Commercialization Office, and Donya Douglas, the Associate Branch Head for Systems Engineering for the Instrument Systems Branch (556) and the instrument systems engineer for the Space Technology 8 Project Thermal Loop Technology, have been recognized by the National Women of Color (WOC) as 2008 WOC All-Stars of Technology. They were honored during the 13th annual WOC Science, Technology, Engineering, and Math Conference on October 23–25 in Dallas, Texas.

This major international forum celebrates the achievements of women of color, while creating an environment for professional networking and opportunities for role models to develop professional mentoring relationships. "Minority women are playing an increasingly responsible role in shaping our technology today," says Career Communications Group, Inc. Chairman Tyrone D. Taborn. "This conference is designed to provide long-overdue recognition of some of America's most distinguished women in technology and business, who just happen to be women of color."

For Goddard, Cheeks leads the technology commercialization effort with a primary focus on industry outreach for the utilization of NASA-developed technology for spin-off applications. She has been responsible for the development of marketing strategies that include technology assessments and technology briefings with industry.

"I never work for awards, but I do appreciate receiving them," Cheeks says. "It signifies that my work is providing a path for others to succeed. I am truly thankful to be recognized for my accomplishments and to be considered a role model for those yet to follow."

Photo Credit: Bill Hrybyk

Caption: Nona Cheeks

Under Cheeks' direction, materials such as technology portfolios that reflect Goddard's technology developments and capabilities, technology transfer, and success stories are researched, developed, and distributed. She also initiates and facilitates unique commercial marketing activities to demonstrate Goddard's technologies to potential industry partners.

Photo Credit: Debora McCallum

Caption: Donya Douglas

Douglas' areas of expertise include research and development of two-phase thermal control devices for spacecraft such as capillary pumped loops (CPLs) and loop heat pipes (LHPs), state-of-the-art research into variable emittance coatings, spacecraft and instrument thermal design and control, and instrument systems engineering.

"During my school age years, I dreamed of becoming a NASA engineer, but never imagine I'd be here," says Douglas. "I truly appreciate Goddard and all who have helped me get here. Their mentoring and leadership early in my career has been instrumental in my successes."

In her postion at Goddard, Douglas has led the concept development, design, integration, and testing of an advanced thermal management system for spacecraft.

"Our honorees have made significant contributions to the work at Goddard while serving as role models dedicated to the advancement of women in aerospace," says Rob Strain, Goddard Center Director. "Both are fine representations of the caliber of people that make up the Goddard community. Please join me in congratulating them for an honor most deserving and for inspiring us all." ■

Hatch Act Guidance for Civil Servants

By John Putman

In light of the upcoming national election, Goddard's Office of Chief Counsel has provided the below general guidance on the restrictions imposed by the Hatch Act on the political activities of General Schedule employees and Career Senior Executive Service (SES) employees, issued by the Office of Special Counsel, the agency charged with enforcing the Hatch Act. Questions about the guidance or about an employee's specific situation may be referred to the Goddard Chief Counsel's Office at 301-286-9181.

Permitted/Prohibited Activities for General Schedule (GS)-Level Federal Employees

GS-Level Federal employees may:
- be candidates for public office in nonpartisan elections;
- register and vote as they choose;
- assist in voter registration drives;
- express opinions about candidates and issues;
- contribute money to political organizations;
- attend political fundraising functions;
- attend and be active at political rallies and meetings;
- join and be an active member of a political party or club;
- sign nominating petitions;
- campaign for or against referendum questions, constitutional amendments, municipal ordinances;
- campaign for or against candidates in partisan elections;
- make campaign speeches for candidates in partisan elections;
- distribute campaign literature in partisan elections;
- hold office in political clubs or parties;
- have a partisan political candidate bumper sticker on their privately owned vehicle, even when parked on Federal property.

GS-Level Federal employees may not:
- use official authority or influence to interfere with an election;
- solicit or discourage political activity of anyone with business before their agency;
- solicit or receive political contributions (may be done in certain limited situations by Federal labor or other employee organizations);
- be candidates for public office in partisan elections;
- engage in political activity while on duty, in a Government office, wearing an official uniform, or using a Government vehicle;
- wear partisan political buttons or other partisan political clothing on duty.

Permitted/Prohibited Activities for Career SES employees

Career SES employees may:
- register and vote as they choose;
- assist in voter registration drives;
- express opinions about candidates and issues
- participate in campaigns where none of the candidates represent a political party;
- contribute money to political organizations or attend political fund raising functions;
- attend political rallies and meetings;
- join political clubs or parties;
- sign nominating petitions
- campaign for or against referendum questions, constitutional amendments, municipal ordinances.

Career SES employees may not:
- be candidates for public office in partisan elections;
- campaign for or against a candidate or slate of candidates in partisan elections;
- make campaign speeches;
- collect contributions or sell tickets to political fund raising functions;
- distribute campaign material in partisan elections;
- organize or manage political rallies or meetings;
- hold office in political clubs or parties;
- circulate nominating petitions;
- work to register voters for one party only;
- wear political buttons at work.

For more information on the Hatch Act and permitted/prohibited activities, visit the Office of Special Counsel's Web site: http://www.osc.gov/ha_fed.htm#agencies. ■

Code 500 Director Receives Legacy Award

By John Putman

On September 18, 2008, Goddard's Orlando Figueroa, Director of Applied Engineering and Technology (Code 500), was awarded the Smithsonian Latino Center's Legacy Award for his contributions to the advancement of science.

Orlando was notified of his award by a phone call from the Latino Center. He was unaware that he was even in consideration. "It was a shock. A pleasant surprise," he says.

Orlando began his career at NASA over 30 years ago. He was born in San Juan, Puerto Rico, and obtained a Bachelor of Science degree in mechanical engineering from the University of Puerto Rico in 1978. Orlando also has an Honorary Doctorate degree from the Dominican College in Orangeburg, N.Y.

Orlando sees receiving the Legacy Award as, "a combination of personal and professional achievement. They look at your professional achievements for sure, but also what you do personally. You are viewed as an ambassador of your home country."

Orlando does his part to inspire the next generation in his home country. He travels about once a year to Puerto Rico and speaks at schools and other functions. Orlando also inspires others at Goddard. He sees himself serving, "Directly and indirectly as a role model to other Hispanics on-Center, mentoring and inspiring the next generation."

Besides being honored by receiving the award, Orlando discovered other benefits at the award ceremony and the reception. "It was a chance to interact with others who have impacted how Hispanics are viewed in the U.S.," he says. Videos produced by the Smithsonian Institution were shown highlighting the Legacy Award honorees and their achievements, "It [the event] was well organized and humbling."

The Legacy Awards were created to recognize individuals of Latino heritage who have made a significant impact on United States culture through their work. This year the ceremony honored Puerto Rico and recognizes the contributions of Puerto Rican individuals in the arts, humanities, sciences, and other areas of U.S. culture.

Ariel Lugo, Director of the USDA Forest Service International Institute of Tropical Forestry, and Antonia C. Novello, the first woman and first Hispanic to be appointed as Surgeon General of the United States, were also honored for their contributions in the sciences.

The Smithsonian Latino Center is a division of the Smithsonian Institution that ensures Latino contributions to art, science, and the humanities are highlighted, understood, and advanced through the development and support of public programs, scholarly research, museum collections, and educational opportunities at the Smithsonian Institution and its affiliated organizations across the United States and internationally. ■

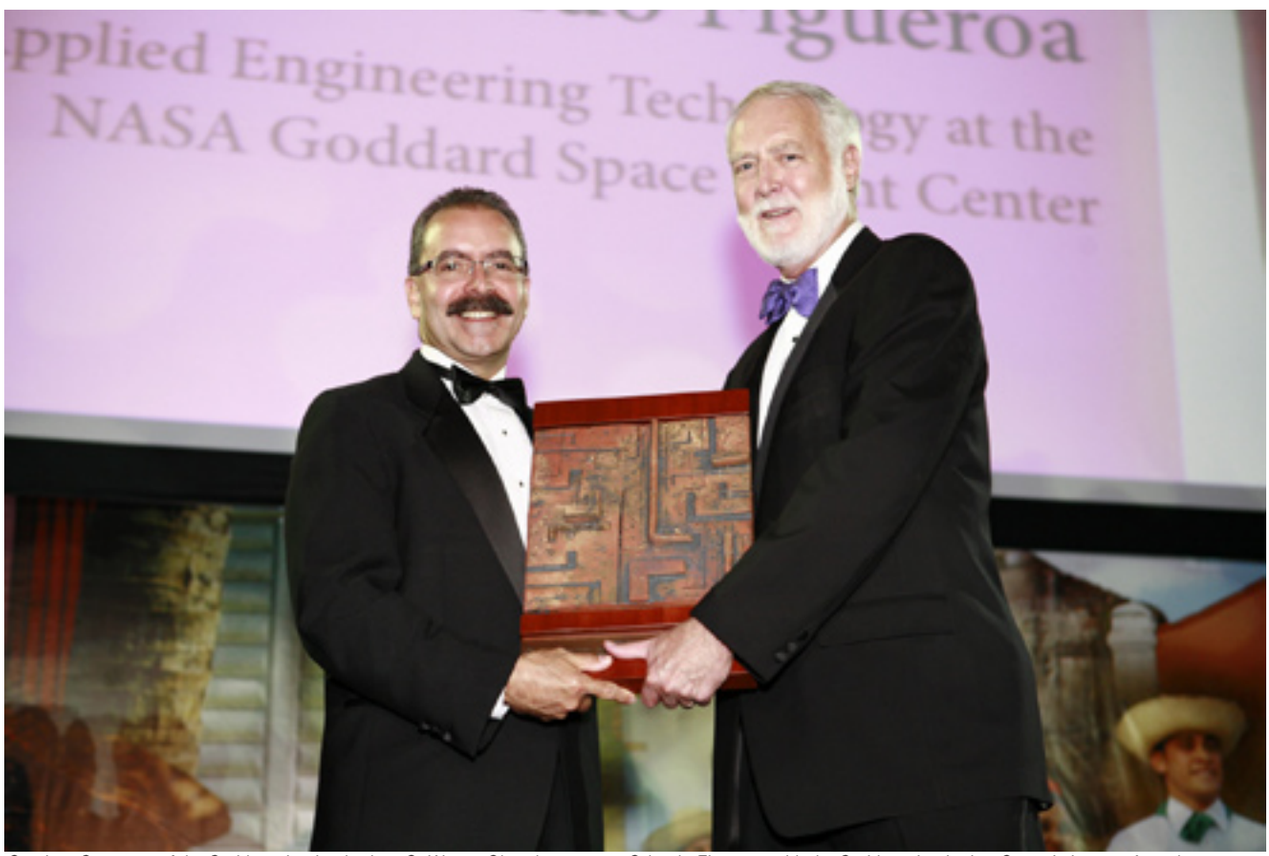

Photo courtesy of FotoBriceno.com

Caption: Secretary of the Smithsonian Institution, G. Wayne Clough, presents Orlando Figueroa with the Smithsonian Latino Center's Legacy Award.

Meet Some of Goddard's Exploration Systems Projects Team

By James Law

Photo Credit: Karen Israel

Caption: Dave Israel.

Photo Credit: James Law

Caption: Bruce Milam.

Dave Israel is the Communications Infrastructure Lead for the Constellation Programs' Lunar Surface Systems Project. As the co-lead for Goddard's Communications, Standards, and Technology Laboratory (CSTL), he is currently supporting modeling and simulation efforts to demonstrate communications interoperability and standards-based internetworking for lunar exploration scenarios. The CSTL incorporates the use of software-defined radios, and flight computer hardware and software to emulate lunar surface communications base stations, lunar relays, Earth ground stations, and network-focused mission control functions.

Dave has been a member of the Goddard team for 19 years, primarily supporting the Space Network and communications technology projects. He is also currently a member of the International Consultative Committee for Space Data Systems working groups and the Interagency Operations Advisory Group Space Internetworking Strategy Group.

He has a B.S. in electrical engineering from The Johns Hopkins University and an M.S. in electrical engineering from The George Washington University. ■

Bruce Milam is the Project Manager of the Unpressurized Cargo *Orion* (UPC *Orion*) Formulation Project and has the responsibility to develop a capability on the *Orion* spacecraft to transport satellites and small technology development payloads to orbit and beyond. In this role, he leads a team of engineers and business case developers to continue what the Hitchhiker Program and *Apollo* Scientific Instrument Module Bay efforts started.

UPC *Orion* continues the path of getting instruments and spacecraft from many scientific disciplines into orbit for *International Space Station* orbital replacement units (ORUs). Goddard has the lead on UPC for *Orion* but is working closely with the *Orion* Service Module team at Glenn Research Center and the *Orion* Project Office at Johnson Space Flight Center.

Bruce has been a member of the Goddard team for 24 years and also served as the Med-Lite Launch Services Manager in Orbit Launch Services, ORU Carrier Manager for *Hubble Space Telescope*'s first servicing mission, Program Integration Manager for Earth science, and a Mechanism Manager for satellite servicing. ■

Meet Some of Goddard's *Hubble Space Telescope* Team

By Susan Hendrix

Photo Credit: Bill Hrybyk

Caption: Kevin Boyce.

Kevin Boyce is the Systems Engineer for the *Hubble Space Telescope*'s Advanced Camera for Surveys repair effort. His team designed and built a new electronics box that astronauts will install during Servicing Mission 4 to *Hubble*, tested it to ensure it will withstand the rigors of launch, wrote software to run it, and updated the ground system software to control it.

The team also designed a way to cut into the existing instrument's hardware to remove some of its electronics and insert new electronics. Kevin collaborated closely with all the *Hubble* engineers and designers for this effort.

Kevin received his B.S. in science from Princeton University, and a Ph.D. from the Massachusetts Institute of Technology. ■

Photo Credit: Bill Hrybyk

Caption: Art Whipple.

Art Whipple is the Lead Mission Systems Engineer for the *Hubble Space Telescope* (HST) at NASA's Goddard Space Flight Center. He leads the HST systems engineering team through the development cycle—from defining initial requirements through design, assembly, test, integration, launch, and orbital operations.

During Servicing Mission 4, Art will serve as the HST Servicing Mission Manager on the planning shift. On this shift, Art begins his day between when the astronauts complete an ExtraVehicular Activity (EVA), or spacewalk, and when they sleep. Art will work with the entire HST and Shuttle operations teams to check out the equipment they installed on the telescope during the previous EVA and prepare any required changes to procedures and notes for the next EVA.

Art has a B.A. in mathematics from The University of Rochester, and a M.A. in mathematics and a Ph.D. in aerospace engineering from The University of Texas, Austin. ■